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Rectal prolapse unreduced for 4 months in a premature neonate

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ABSTRACT

A 5 month old male infant was transferred to a children's general hospital with an 11-centimeter rectal prolapse, which had not been reduced for four months. He had been born at 24 weeks gestation with a normal perineum and had recovered from sepsis and respiratory failure. At the time of arrival, he was tolerating feeds and having normal bowel movements. He had a normal neurologic exam and spinal x-rays. We performed a laparoscopic reduction with digital pressure from below to successfully address the prolapse. Hypertonic saline was additionally used as a sclerosant. There is no current consensus on the timeframe for addressing rectal prolapse, though a case that remains unreduced for four months in a neurologically normal newborn is exceedingly rare. To minimize potential complications, expeditious reduction and repair, as necessary, is recommended.

Rectal prolapse is an entity commonly seen in the pediatric population, encountered most often between one and three years of age. Unlike prolapse in adults, where the cause is frequently pelvic floor weakness (e.g., after childbirth injury), the etiology in children is usually idiopathic, often in the setting of toilet training when parents encourage prolonged times on the commode [1]. Children with predisposing factors such as diarrhea or increased intra-abdominal pressure—secondary to chronic constipation or cough—are more likely to develop prolapse [2,3]. Malnutrition may increase the incidence due to the lack of ischiorectal fat pads that normally bolster the distal rectum [1]. In cystic fibrosis (CF), up to 23 percent of patients experience rectal prolapse at some point; many authors recommend a screening sweat test in all children presenting with prolapse [1,3]. Hirschsprung's disease and Ehlers–Danlos syndrome are unusual causes [1,3]. Rare neonatal cases are virtually always the result of abnormal levator/sphincter mechanism from spinal dysraphism.

1. Case report

In June of 2013, a 5 month old male infant was transferred to our institution for treatment of an 11-centimeter mass protruding from his anus. He had been born at 24 weeks gestation with a normal perineum and anus and had recently recovered from sepsis and respiratory failure. The mass developed at one month of age and had been stable since then, with no previous attempts at reduction undertaken (Fig. 1). Upon arrival, he was tolerating feeds, having regular bowel movements, and had no other serious problems with the exception of massive bilateral inguinal hernias. His neurological exam and spinal x-rays were normal. Attempts at manual reduction in the neonatal intensive care unit were unsuccessful. In the operating room, digital pressure from below combined with simultaneous gentle traction from above with laparoscopic instruments allowed for successful reduction. As additional therapy, hypertonic saline was transanally injected into the submucosa as a sclerosant. The boy had bilateral inguinal hernias repaired 10 days later and was then transferred back to the birth institution. No etiology for the prolapse was uncovered, and there has been no recurrence in the three months since surgery.

2. Discussion

Rectal prolapse must be distinguished from extruded intussusception (usually present in a sick child whereupon rectal exam allows the finger to slip between the prolapse and the anorectal junction) and from a prolapsed polyp (non-circumferential on close inspection). Once rectal prolapse is confirmed, the recommendation is to perform immediate manual reduction with digital examination to follow. Application of sugar or other osmotic agents has been advocated to reduce edema and facilitate reduction [4]. In most cases, rectal prolapse is self-limiting. Parents should minimize the child's time on the toilet and reduce promptly any extruded

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Fig. 1. Rectal prolapse, unreduced for 4 months, in a 5 month old premature neonate; he also has large bilateral inguinal hernias.

bowel. Aggressive treatment of constipation or other underlying cause should follow, when possible [3,5,6]. Previous studies conclude that children diagnosed before age 4 and those without identifiable etiology (e.g., CF or neurologic dysfunction with pelvic floor weakness) usually experience spontaneous resolution [2,3].

Medical management is usually the best first step because surgical interventions are often imperfect, and recurrence is common. Yet, children with significant symptoms such as pain, ulcers, or bleeding and those resistant to conservative measures warrant surgical intervention [2,3]. In addition, prolonged rectal prolapse may produce significant edema due to venous obstruction followed by ulceration and necrosis, which requires operative treatment [1,2]. When surgery is needed, less invasive procedures are recommended initially; these techniques include submucosal injection of sclerosing agents, banding, and placement of Thiersch stitches [1,3]. If these measures are unsuccessful, laparoscopic resection or rectopexy with fixation to the sacrum, with or without mesh, are options [1–3,5].

Our current search of the pediatric literature revealed no reports of unremitting rectal prolapse without reduction for such an extended period. In addition, refractory prolapse in the newborn is rare as several large series encompassing 348 children included no operations before 8 months of age [2,3,6–8]. Fortunately, despite the chronicity noted in our patient, major complication did not occur.

3. Conclusion

While there is no current consensus on the timeframe for addressing rectal prolapse, serious complications such as bowel necrosis as well as the pitfalls of difficult surgical repairs—with their varying degrees of success—can be avoided by expeditious reduction. Despite the prolonged prolapse, a rarity in a neurologically normal newborn, reduction under general anesthesia was uneventful and, when combined with sclerotherapy, led to resolution of the problem.

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